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AN APPRAISAL OF AGRICULTURE
IN THE DEVELOPMENT PROGRAMS OF
SEVEN COUNTRIES IN THE MIDDLE EAST AND ASIA y+3a.

BY

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STANLEY ANDREWS, CONSULTANT

TO

THE SECRETARY OF AGRICULTURE v

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Office of the Secretary,
United States Department of Agriculture,
Washington, D. C. //

December, 1961

by Stanley
Andrews

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IRAN

SUMMARY AND COMMENT

1. The rather optimistic and favorable appraisal of the progress being made in economic development and technical assistance in Iran must be read against the development of these programs amid the confusion, financial and political chaos of the Mossedah regime and the near collapse of the country during 1952 and 1953.
2. Likewise, the failures, misjudgments and inadequate planning of many of the projects in the early development of Point IV in Iran must be viewed against the political and diplomatic pressure on the Technical Assistance mission in 1952 to "get things going and make an impression on Iran in order to save it from Communism."
3. The case studies on industrial projects contained in another paper, plainly point to the fallacy of the "impact type of project for political effect." While luckily most of these early impact projects have been rescued and are a part of the growing and booming Iran economy today, it is almost a miracle that these projects have survived in any form.
4. The early TCA mission built up from a corps of young Iranians, who were sons of the important families then out of power, what really amounted to a shadow government and to a high degree dominated the ineffective Mossedah dictatorship.
5. From an outside observer's standpoint, the U. S. mission is still

too large in the employment of both Iranians and Americans. It still maintains too strong a position in the Iranian government, even to the extent of the present government seeking advice and counsel on its relations with other powers from the U. S. representatives in Teheran. This may seem highly complimentary within the present context, but it also means that in the event of an upset, as in the case of Iraq and South Vietnam, the U. S. is in no position to continue its basic mission and reasons for being in the country--carrying on a mutual program to develop the living standards of the people.

6. As in all countries visited by the writer, there seems to be an inordinate amount of staff occupied in routine housekeeping, bookkeeping and control duties. There are literally fields of cars and station wagons in the general car pool; whole building compounds are utilized for the American and Iranian personnel headquarters, not to mention the rather elaborate housing of much of the American staff. Perhaps this is inevitable in a mission of this kind, but it does seem to overemphasize by its very existence the affluence with which Americans are supposed to be endowed in the eyes of host country people. This inevitably leads to the central headquarters mission becoming a sort of second diplomatic mission contacting those few of the higher crust of government in a country seething with unrest.

7. The restoration of the Ostand Technical Assistance teams and the paralleling of those teams by trained Iranians at the Ostand or provincial level is perhaps the most healthy development taking place in the present mission.
8. The rivalry between what is coming to be an excellent extension service, the community development organization and the fundamental education groups, is a distressing waste of human resources in a country where every resource, human and material, is needed to meet the social and political pressures which are crowding upon the institutions of government in the country. Unfortunately some of this controversy and rivalry has been exported from the United States with our alleged know-how.
9. If the shift to Development Loan Fund for project support financing in Iran goes ahead as planned, it will be necessary to inaugurate far more cooperative relationships between the DLF-Washington and the missions in the field. Presently, a vast amount of time is wasted in the mere sending of cables to Washington for instructions on routine technical assistance projects. With the DLF tied into this, movement will be further slowed down and the mission in Iran will be even less effective in vital action programs.

PROGRAMS FOR TECHNICAL ASSISTANCE AND ECONOMIC DEVELOPMENT IN IRAN

The Country

Iran, the new name for old Persia, has a territory of 629, 000 square miles, occupying the western half of the great plateau between the Indus and Tigris rivers in Southwestern Asia. The population is around 19 million. On the north, the country is bounded by the USSR and the Caspian Sea; on the east by Afghanistan and Pakistan; on the west by Iraq and Turkey and on the south by the Arabian Sea and the Persian Gulf.

Widely noted in more recent history for its vast deposits of oil and the controversy over the Abadan refinery and the British oil concession, Iran or Persia is a country of great antiquity, oriental culture and military history.

Ruled by a Shah, it has had a constitution since 1907. The constitution provides for an executive, with power vested in the cabinet and government officials who act in the name of the Shah. The national assembly is elected every two years. There is a senate of 60 with 30 being nominated by the Shah and 30 elected. Laws require the Shah's signature and he may dissolve the legislature.

Iran's natural resources are considerable. Fine forests cover the sides of the high mountains and plains. In addition to oil, there is known to be considerable deposits of coal, iron, copper, lead, borax,

zinc, nickel, and cobalt. Agriculture is the prime industry with wheat, barley, cotton, sugar, rice, fruits, gum, wool, wine, and tobacco being the chief products. Wool rugs woven on hand looms are world famous. Iran has potentially the greatest reservoir of oil in the East.

Islamic religion predominates. Education up to the fifth grade is compulsory. The National University is in Teheran and there are a large number of colleges with the beginning of a vast public school system.

OVER-ALL PROGRAM AND STAFF

Organization

Any appraisal of what has happened or what has not happened in Iran since 1952 must be made within the context of the situation as it existed then and as it has existed almost every day since that time. Essentially, our operation in Iran has been that of trying to hold this country in the democratic camp, help it get its economy in order and establish some sort of political stability in the hope that a genuinely free and sovereign nation might be maintained.

Our major effort here has not been in economic development and technical assistance, though that is the excuse we have given. That was the original, and still is the basic, objective. However, our efforts here have been essentially political and military.

We have spent over \$400 million in Iran. Of this amount, \$38 million has gone into the so-called technical assistance or Point IV

concept field. An additional \$55 million has been spent for commodities, materials and other inputs which have gone into the Iranian economy primarily as economic assistance. The remainder--\$307 million--was spent for the establishment, equipment, and maintenance of the Iranian military forces.

Iran has matched our \$38 million in technical assistance with \$61 million. In the eight years since operations started, more than 200 individual technical assistance and economic aid projects have been undertaken, ranging all the way from the scattering seed wheat in Azerbaijan in 1952 to the establishment of a demonstration filtration plant in the city of Teheran.

Since 1956, there has been a gradual reorganization and reformation of the U. S. setup, particularly in the accounting and financial structure of the USOM mission. Many projects have been either closed out or consolidated into a series of rather large projects or programs. Of the 200 individual projects begun between 1952 and about 1954, four principal ones, in terms of finance, remain: Project 45, Project 46, Project 115, and Project 126. In terms of technicians, we have spent in this time \$3,081,000. In buildings, equipment and supplies to support these technicians, we have spent \$8,277,000. The policy of the present mission is to group all operations into a line-type organization without the many joint fund arrangements which characterized the earlier TCA administration. The country director works directly with the Prime Minister's Plan Organization on the Iranian side. Technical personnel

are housed with the respective Iran agencies or ministries in the role of advisors. Presently, around \$2 million in special assistance funds are spent to supplement Iranian funds in some of the major programs at the technical level. It is planned to eliminate all American funds in the technical programs by 1962. This would leave only grant funds going into Iran through defense support, and these funds are dropping to \$20 million next year against \$27 million this year. New American aid funds would come from Development Loan Fund special commodity arrangements or special funds.

This new general arrangement is diametrically opposed to the original setup here, which started with a large series of projects, some of them partly, many of them entirely, financed by American capital. To administer the 200 original projects a vast parallel organization to the weak Iranian government was established. The American mission employed more than 2100 Iranian people, a step that was thought necessary at the time because of the rather chaotic conditions of the country. During this early period in the establishment of projects, Ostand teams were set up in all of the Ostands of Iran. These teams usually had administrative support personnel--agricultural technicians, health technicians, an industrial development technician, education and various other special technical assistance persons. These were withdrawn from the provinces in 1956. Within the last 18 months the technical groups are being returned to the provinces and there now are teams in most Iran Ostands paralleling the various Ostand governments.

The International Cooperation Administration reorganization of the Teheran headquarters staff is mainly financial and accounting rather than physical. The general staff organization and supporting services occupy one large building and run pretty much separate from the technical groups.

The technical staffs, except for being housed with the ministries, are very similar to the original pattern, and many of them are still working on projects which were started in 1952. There has developed on the side of the Iranian government, particularly in the technical ministries, a new and rising group of young administrators and government officials who are taking charge and managing and operating the ministries at this date. This is in contrast to 1952, when the ministries existed in name only. True, there are still many weaknesses in the administrative structure at this time, but one must be heartened with the tremendous drive and energy and the great intelligence of the young men and women who are manning the government of Iran today.

The Plan Organization, which was established back in 1945, has gradually grown in strength and stature. It is becoming more effective as a planning agency and is at the present time the main power center in the economic and social development program of the country. This Plan Organization sets up the various priorities for projects and programs, and allocates some of the government funds and the oil revenues as well as most of the loan funds and special funds reaching Iran in various ways. It is an entirely Iranian-controlled organization and

appears to have vast prestige among the many ministries and the groups working in this country. After a program or project has been reviewed and priorities set up by the Plan Organization, it is turned over or managed through the interested ministry involved.

The American technicians, more than 200 in number counting the administrative and backstopping support personnel, sit as counterparts or, rather less than counterparts, as advisors at the various levels in the government and in the technical bureaus of each ministry.

There are some rather unusual informal arrangements between the chiefs of some of the American divisions and the respective ministers involved with reference to keeping a team approach to most of their problems.

In one of the divisions in which I went into considerable detail on the American-Iranian setup, there is a plan whereby the minister advises his American counterpart whether or not a certain man or an individual in the ministry is cooperating and is effective in the Iranian organization. On the American side, if it appears that the Iranian counterpart is not working effectively or there is trouble between the two people, the minister then takes action, in the event it seems to be the fault of his person. If nothing can be done on either side, then the project is suspended until a better arrangement is worked out. No American technician goes on a field trip without advising the minister of it. He is usually accompanied by the Iranian counterpart, who customarily does the talking when a project is visited.

General U. S. Staff Organization

The staff organization here generally follows the pattern now found in nearly all the countries--a country director, a deputy, a program officer, an executive officer, and the usual series of administrative personnel which is strictly and completely an American show.

Underneath this top structure are the technical divisions which sit with their respective ministers. They are agriculture, industry and transportation, public health, water authority, agricultural credit, agricultural extension, labor, communications media, education, and a considerable group of sub-subject groups involved in each of the ministry organizations. As a part of the over-all staff organization of the agency, there is the training officer who looks after Iranian personnel going abroad and handles the implementation of the participants' programs for all of the ministries and the necessary Iranian contacts having to do with the travel of Iranians abroad. There is a large number of Iranians going to American universities at the present time and there are numerous groups that go out to the United States from the various ministries on participation training programs.

Training has a very high priority in all of the ministries and it is the single most encouraging and exciting aspect of the technical assistance program in this country. The young Iranians are taking training in types of activity ranging from motion picture production to sanitation, agriculture, industrial engineering, carpentry and electronics. This training is done in Iran primarily by Iranians with American advisors.

The American technician is not training a counterpart. In each instance, he already has a counterpart, who is usually a well educated and fairly alert, young Iranian on the rise in the government. The chances are that this Iranian has visited the United States on some one of the other training or participant missions.

At this point some eight years after 1952, the various ministries of Iran, while not at the strength one would like to see in an important country like this, are moving far up the road toward being equipped, trained and organized to administer a modern Western state with all the complexities that Western technology can bring.

Remembering the early confusion, the political, economic and financial chaos of the Mossedah regime, one can hardly recognize this country now. Over-all production has shown marked increases since 1952. The increase does not come necessarily from new technology; rather, it is an expansion of effort in the old technology and an expansion of plant in the old concept. Iran is now getting ready for the new technical age and the new technological advance that will and does come to countries at this stage.

The Ministry Programs

Agriculture. The agricultural program in Iran was first manned and largely directed by Utah State College under contract to the Technical Assistance Administration. The college in effect staffed the agricultural division and established a small group at the agricultural college in



Karaj, some 60 miles from Teheran. The idea was to begin the establishment of a land-grant type agricultural and engineering college. The Utah staff was the technical assistance staff at ICA Teheran and operated as technical assistance personnel when it came to project operations. This arrangement carried on until about 1956, when an agricultural division was set up in the USOM mission. Since 1956, the personnel at the college has devoted itself primarily to establishing and assisting Iranians in the development of a four-year agricultural and engineering college, with the technical personnel working into the regular staff organization of USOM for planning and general administrative purposes. Several of the original Utah group formally joined the direct hire staff of the USOM mission and so remain today.

Early Agricultural Projects

One of the most dramatic of the early agricultural programs, somewhat in the nature of an emergency, was carried on in 1952 in the province of Azerbaijan on the Russian border. The Russians, who had occupied the area for some years after World War II, withdrew from the country under an agreement with the great powers, but in doing so, took with them practically all of the livestock and most of the grain and other food and feed crops which the population had. Early in 1952, people in Azerbaijan were starving. They were eating roots and potatoes mixed with cow dung, or anything on which they could survive. Emergency seed, wheat and barley were shipped quickly from the United States. Arrangements



to transport this wheat, barley and seed to the stricken area were undertaken and organized by a representative of Utah State College.

Though there were no roads, the wheat and barley did arrive; as would be expected, some of it was eaten by the starving population, but much of it was planted. This proved to be the beginning of widespread and rapid agricultural development in that part of Iran.

Previous to the distressing winter of 1952, the Iranian government had begun the construction of a by-pass of the Araka River into a canal which would allow the flooding of the great plain area. At that time the plain was primarily public domain and served as grazing lands for the semi-nomadic peoples there. At about the same time, Point IV, much to the distress of some of our Congressional friends, provided money to purchase tractors and combines for the introduction on this plain of mechanical production of wheat and grain pretty much in style as it is produced in western Kansas, Oklahoma and other major wheat areas of the U.S. Not all of the tractors and combines finally reached the area, but enough of them did arrive to demonstrate that they could be used effectively. Trained technicians were sent along to manage and operate the equipment and establish maintenance and training schools. This started the big development of the area by individuals who are taking up and managing government lands. Vast amounts of wheat, sugar beets and cotton are being grown there, essentially by mechanical means. It is private enterprise with a vengeance. The developers of this rich agricultural land are wealthy and important individuals from Teheran.



Simultaneously with this development came the construction of a hard-surfaced road from Teheran and the other important centers where the wheat and food products were needed and distributed to the population. The road was built primarily with Plan Organization funds with American technical assistance plus some money for road-building equipment.

The development of the agricultural college, an agricultural credit system, and an extension system will be treated in special reports.

The Public Health Program

It would be untrue to say that the malaria mosquito has been banished from Iran, but to say that its damage to human beings has been drastically reduced in many of the critical areas over the past eight years would hardly describe what has happened here. There are areas in Iran that for 4,000 years have had a malaria incidence running as high as 90 to 98 percent of the population each year. Throughout the country, malaria incidence is down to 5 to 10 percent, and even in the worst areas, it has been reduced to around 60 percent.

Paralleling this malaria control work and other types of preventive medicine has been the establishment of small sanitary clinics, health centers, hospitals, and all sorts of public health services in many of the villages of this country. Again it would be unfair to say that all the job has been done, but the organization, the determination and apparently the technical know-how in the simple rudiments of public health and preventive medicine are developing and are capable of being



expanded by Iranian personnel as fast as monies and resources can be developed to put behind them. Complete teamwork between the WHO, the U. S. Public Health groups and other agencies with the Iranian Ministry of Health is the key to this program's relatively rapid progress.

Industrial Development Programs

Industry projects and programs are sparked by two agencies in the Iranian government--the Plan Organization and the Ministry of Industry and Transportation. Since a number of the original Point IV industry projects will be reviewed as a special report, we will not discuss in detail the development of the industry branch. Needless to say, the country is moving forward on its own at a rather rapid rate in the development of industries of various kinds. The country is now almost self-sufficient in cement through the development and construction of three new cement plants by private capital joined with capital from outside, principally Italian and German.

The country is near self-sufficiency in nearly all important construction materials. There is some criticism that steel from a proposed mill will be unable to compete with world steel prices, but any country takes great pride in having a steel mill, even though it is expensive, and Iran is no exception. In addition, the Goodyear Tire and Rubber Company is establishing a manufacturing plant in Iran, and the Willys Overland Company is establishing a jeep assembly plant.

These are merely indications of the industrial boom that is beginning



to take hold in Iran. It would be unfair to claim credit for all of this development through American technical assistance programs. It is a fact that some of these ideas and some of these industries were stimulated and started by the early, small efforts in the industrial field by the Point IV organization.

Probably the most important Point IV industrial project was the purchase of the equipment for a small sawmill in the northern part of the country, operated by the railroad monopoly and designed especially to cut ties for the state-owned railroad and lumber for bridges, boxcar sidings and depots. This mill has been operating very effectively for some years and has given rise to the desire to further develop the forest resources of Iran, which are considerable, though somewhat inaccessible. To that end, a new and modern mill, cutting around 12 million board feet per year, is nearing the operation stage. The story of this mill will be told in another report or case study. The mill will replace many of the traditional two-man saw arrangements which cut much of the lumber in this country. Iran traditionally has imported its finished lumber from Russia.

German and Italian interests are developing the ore deposits in Iran, and are considering the construction of Iran's first steel mill. Sugar mills are being constructed faster than the sugar beet production can reach plant capacity. The mill expansion is being carried out by both the state sugar monopoly and private capital. Plans are underway for Iran's first fertilizer plant. Up until four years ago, most of the

land was replenished and restored through the use of manure from the animals, sludge and compost. About four years ago, 500 tons of chemical fertilizer was brought in for demonstration purposes and this amount has steadily increased up to this year, when 30,000 tons were brought in. The demand is growing by leaps and bounds. If monies can be allocated, as much as 50,000 to 100,000 tons will come in next year. In the meantime, construction of an ammonium sulphate plant is underway a few miles out of Teheran. Gas from the Abadan refinery is being piped to this important new plant, which will have around a 50,000-ton nitrogen capacity and will be built mostly by Iranian capital with a French engineering firm designing and building the structure.

The small industry staff in the ICA mission is headed by a highly competent and versatile civil engineer, who is more of a catalyst and a creative promoter than a strict engineer type. It has been through his energy, imagination and foresight that some of the older, bogged-down industrial projects have been rescued and are promised to play important roles in the economic development of Iran.

Education Division

From a slow start in 1952 with Western-type pilot schools, Iranian education is moving toward a Western-type public school system.

While there have been Western-type schools in the larger cities of Iran--principally the capital city of Teheran--for some years, a public education system reaching the villages began primarily in 1952 with some

pilot schools located in the larger villages. There has been a rapid expansion of these schools, a little faster than teachers could be trained to man them.

The emphasis on education in Iran today is the same as it was the day these were started back in 1952-53, namely teacher-training and the development of school materials to meet the demands of the people.

In 1952, there were 16,000 teachers in the entire country of Iran, including all of the professors and teachers in the fairly well developed schools of Teheran. With more than 40,000 villages in Iran, the problem of getting one teacher for each village school seems almost overwhelming. The primary goal set up in the very beginning by the Minister of Education and the Director of the Educational Division of Technical Cooperation Administration in Iran was teacher training, that is, the training of new teachers and in-service training of old teachers, plus the establishment of a modern curriculum for the schools and the provision of books and materials for the schools as they opened. In other words, teachers plus materials plus buildings plus pupils made a school. One would gather that this is still the goal of this branch of the Iranian government. The teacher training program has succeeded to a very high degree. There are now more than 30,000 teachers in Iran, most of them having been turned out by the high schools and junior schools and trained in modern educational methods primarily through the teacher training service established by the ministry. There has not been much modernization of curricula in these schools toward the vocational aspects or even toward

fundamental education. However, fundamental education was introduced by the U.N., the TCA and the Iranian government very early in the development of the educational program, and this has continued on a large scale. After eight years, a basic curricula change is just now being taken into full consideration and adapted to the rapidly growing Iranian school system.

How a Curriculum Grew

How things sometimes happen in a culture or in a country similar to Iran may be illustrated by what happened on the Iranian New School Curriculum. When the educational division was opened in 1952 and it was decided to attempt to modernize Iranian schools, a distinguished American-educated woman professor, Dr. English, undertook a study of the California school system, thinking that this would be a rather good model from which the country could start. This model was developed and adapted to Iran. Basic textbooks were translated and a whole system was projected. This report, which took a couple of years to develop, was presented to the Minister of Education at the time, who took it, read part of it and without comment, stashed it away. That was a little over seven years ago. In the middle of 1960, the present Minister of Education revived that particular study, and is now in the process of adapting some of it to the Iranian school system in terms of courses to be taught, subject matter content, methods, and materials.

Industrial Skill Education

Indicative of the attempts that are being made to meet the new demands of the booming Western-type economy developing in the cities of Iran is the establishment of an industrial training institute. This institute is designed primarily to train vocational teachers in the industrial arts. These vocational teachers will then go out to the secondary or high schools in the larger villages throughout the country, carrying with them not only work plans and designs but sometimes the material to teach the young Iranians skills in some of the new industrial crafts.

The history of this effort is perhaps worth recounting. Prior to World War II, the Germans had established trade schools in Iran based on the hand tooling system, that is, taking a piece of metal and with a lathe and one's hands creating another piece of metal which might be a cog wheel or a plowshare, a cotter pin or a bevel gear. There were many of these schools, mostly manned by German teachers brought in by the old Shah in his attempt to modernize the country. The World War II nearly closed out all of this. The new schools established after the war were called engineering schools, since engineering has a very high status. The young people who attended these schools wanted to become theoretical or consulting engineers. A considerable tussle developed between the American concept of vocational industrial training and the traditions of theoretical engineering. Early in the Point IV program, the U. S. technical assistance group brought in modern industrial equipment for these schools, but it was not until the last two or three years

that schools offering courses based on skill and work with one's hands began to attract any students or attention from the educational system. Now there is an Industrial Training Institute, which is a part of Teheran University, and it is beginning to turn out industrial training teachers for the various skills needed in an industrial-type society.

The kind of skills taught in the school is probably more easily shown by the list of subjects. The two-year course includes the following:

1. Auto mechanics. The whole category of maintaining, repairing and conditioning automobiles.
2. Electronics. The whole area of repairing radios, television sets and the whole series of new electronic gadgets, mostly imported from other countries, which are literally overflowing the country at the present time.
3. Refrigeration. The whole area here of air conditioning, mechanical refrigerators and refrigerators for the industrial plants that are going up to process fruits, meats and other foods.
4. Foundry work.
5. Carpentry.
6. Electrical engineering.
7. A series of kindred subjects.

The boys are selected from the high schools and are given most rigid examinations, particularly in mathematics. Also, they are tested

for their abilities in the manual skills. Many of the teachers that come to the institute at the present time are already vocational teachers in the villages and high schools in Iran. These people have picked up their skills primarily through their own efforts, and they are usually pretty long on actual manual skills, but very short on academic skills. Something of a compromise in entrance examinations is being made between the student who is a whiz so far in the theoretic and academic aspects, and the chap who is strong on the manual.

An important member of the Plan Organization told this reporter in the course of a conversation that neither capital nor materials was the limiting factor in the expansion of Iranian industry at the present time. The one most priceless thing that is needed and absolutely required is skilled manpower, he said, something that Iran does not now possess and something which Iran often has to import if she establishes modern industries.

Another important boost to skilled technicians has grown out of the experience of the last eight years with the importation of machinery by the American mission. The Iranian government has established a policy that when a company in Germany, France, Italy or the United States sells machinery or an industrial plant to the Iranian government or to Iranian private enterprise they send technicians along to train the Iranians in the operation and maintenance of it. This training ranges all the way from a few months to a couple of years, until Iranians are actually trained on this new machinery, not only to operate it but to

maintain it. This policy developed out of a rather sad experience on the American side with the importation into Iran of some refrigeration trucks designed primarily to haul freshly killed meat from a slaughter house at the edge of Teheran into the city markets. In almost no time, the investment in these expensive and important trucks was virtually wiped out through the inability to maintain them. It was with some shock that the American technical assistance group, after turning these trucks over to the Iranian monopoly, found only one in operation and that primarily for demonstration purposes for the benefit of Americans.

The New Technical School

The new Industrial Institute is housed most excellently in the old buildings on the site of the famous Albors Presbyterian College, which was closed out and confiscated by the government during the Mossedah regime. The buildings have been rehabilitated, dormitories have been built and a vast complex of new machine shops and classrooms and technical training laboratories have been set up. The college now has 350 students and is graduating approximately 75 to 100 per year. There are 16 highly skilled and technically trained teachers, along with the Dean of the Institute, working under the auspices of the Ministry of Education. There are seven American technicians, ranging all the way from a foundry expert to an electrical engineering expert, who work as advisors and occasionally as teachers in the various classes. Their primary function is to establish the machine shops on a more modern plan to introduce various tool control, production control, line flows

and the sort of modern system which a highly technical and integrated factory possesses. The teaching is done primarily by the Iranian technically-trained teachers. Most of the equipment in the school, such as the desks, shelves, tables, chairs and work benches, was made by the students in the course of their training.

The ICA organization has supplied something like \$1,500,000 worth of modern lathes, furnaces, and other types of equipment which are used in the school. It must be emphasized that much of this equipment is there for show purposes and is rarely used by the students. This type of equipment is far beyond what any prospective teacher would have to work with when he went out to the high schools and teaching assignments in the villages. This means that much improvisation is done. Though many of the village high schools (and a village may be anything from a thousand people to 40,000 people) are fairly well equipped with various kinds of industrial arts and crafts equipment, the equipment that is actually used by the students in the carrying through of their work assignment--and every student must go through a work assignment period--is primarily improvised from local Iranian materials and equipment. The furnaces in the casting foundry are made by the students out of oil drums lined with bricks and equipped with simple hand blowers that heat the charcoal and/or other fuels used in the process of melting the steel ingots to make the castings. This, then, is the picture on the new Industrial Institute, which will enroll 700 students this winter out of the 2000 seeking entrance.

A homemaking and economics college, situated on the edge of town in an old apartment building, has been established outside of the very elaborate and distinguished Iran University to train home economists and teachers specially selected to deal with village and rural problems. Some of the fundamental education teachers are being trained on the Varmin plain at a center originally established by the Near East Foundation with some Point IV funds to train extension home demonstration agents. At the present time, the fundamental education teachers train there along with village workers in sanitary and public health problems.

Labor Division

The labor ministry and the labor advisor will not be discussed in detail here. Suffice to say that labor unions in this part of the world are largely political organizations and are a sort of blend between political organizations and guilds. The work originally done here to impress management with the necessity of better organization of work and better handling of materials has continued. At the present time, the emphasis of the labor ministry as well as the labor advisor is on the economic meaning of a modern labor organization. Large numbers of Iranians are visiting the United States and the labor advisor, in conjunction with the labor ministry, regularly conducts a series of training schools and seminars designed primarily to reflect the philosophy, the techniques, and the contributions of a modern labor organization in a Western-type economic system.

Communications

Communications training here originally started as a motion picture project directed for several years by the University of Syracuse with an annual budget of \$800,000. The Iranians were trained in the creation, development and production of their own educational and documentary-type motion picture films. This project, though costly, has succeeded, and vast numbers of Iranians are skilled in the business of making motion pictures, posters, photographs, etc. In the writer's tour through the rural villages some 50 to 150 miles around Teheran, we found evidences of the communications media training in every extension office, industrial office and school we visited.

A modern-equipped and completely Iranian-manned motion picture and communications center has been established which designs and provides materials for all sorts of government activities and agencies. Some 116 documentary and educational films have been produced by this center.

One of the very important units of the industrial school described earlier is a communications media division where the lessons and materials which are used in the school are produced. These materials are also made available to the graduate teacher when he goes out to his new assignment.

Water Control and Development

In a country such as Iran, water is literally more valuable than oil. Questions of water control, use and availability are of more than

critical importance, not only to a stable government but to the vast numbers of people, the cropping system, the health system, industrial development, and all the other operations that depend on water for success.

The Point IV part of the Iranian water program started early in 1952 with the drilling of 50 demonstration tube-wells in various parts of Iran by Mr. Dick Richards, who was under contract to the old TCA organization. There have been wide differences of opinion about the success or failure of this project, which has long since closed out. The Richards operation resulted in approximately 40 good, producing wells, most of which are in operation today and being used for multi-purposes: water for the family, water for the livestock, and some for irrigation purposes, principally home and truck gardens rather than the more extensive irrigation for corn, wheat and sugar beets. One of the basic problems in this program has been the care and maintenance of the wells after they were drilled and established. Most of them were equipped with Diesel-type machinery, though some few (one in particular which we saw on a field trip) were equipped with electrical centrifugal pumps. The division of water within a community of many small land holders and the responsibility for keeping the well maintained and in operation are questions not answered by just drilling a well. However, many of the wells were located on land or in villages owned by large landlords, and in such cases, some provision was usually made by the landholder for maintenance of the well since it was to his financial interests to keep it operating. In villages where there were many freeholders and no

particular responsibility for keeping the well in operation, some of the wells have gone bad.

Community Development May Help and Has

The community development program is expanding rapidly in Iran. One of the projects which most of the villages soon undertake under community development is the provision of sanitary water for people and more water for village livestock and crops. An attempt is being made to make each community responsible for the maintenance, upkeep and operation of the wells drilled in the water development project. It appears most of these original wells will continue to serve the purpose for which they were set up.

Following the early 1952 demonstration, vast well drilling and well development program was started under a water authority in the government. A plan for better utilizing the water resources of this country is being developed by the Plan Organization and by the various ministries and authorities involved. There is no possibility of any gigantic dam construction program which will materially help solve the water problem. Rather, it seems that a whole series of small dams or small diversions of streams, or the creation of small reservoirs fanning out from streams and the impounding of water in some places will supplement the Goanat system, which is as old as time and still tremendously effective. Wider use of cisterns and the maximum use of the great springs which flow in many parts of the country are in the works on the water problem. The

U. S. mission has a few water technicians here and irrigation technicians, who are primarily concerned with the use of water on farm crops rather than the vast development program needed to utilize Iran's considerable water resources.

This, in a very general way, is an overview or an over-all survey of the programs in Iran which are receiving American technical assistance.

There are other groups working in the country besides U. S. government units. An Austrian technical assistance group is handling forestry. A United Nations group is working in all phases of the government effort. The IBEC organization of the Rockefeller Brothers is dealing with housing developments; the Overseas Consultants and the Lillienthal organization are dealing with water and irrigation development projects of various kinds; the Public Affairs Institute in Washington is undertaking, under contract with ICA, a vast system of public administration training.

All of this is far too vast to survey in a brief six or seven days' time. We have merely tried to hit the high spots and to get at some of the "spirit" of what is being attempted in Iran today.

We feel that the attitude which is developing in Iran is probably the most important thing in the entire eight years of effort. By attitude we mean a feeling on the part of the people and a feeling on the part of the government that there is a responsibility to the people and that this country is bound to progress. The city of Teheran, as well as the outlying cities here, is typical of what is happening all over the Middle

East. There are emerging housing subdivisions, vast new office buildings, all of the boom in construction and in mercantile and service expansion one would see in a Western frontier city.

The International Bank has placed considerable money into many of the development projects in Iran. A committee from the Bank has just completed a review of the budget and financial structure of the government. This may mean a move to stabilize the rial at some future date. Since the time of Mossedah, the rial has dropped drastically in value and now sells at the official rate of 100 rials for 75 cents American. There is no particular black market here in currency of any kind and a visitor or a tourist may buy rials at any of the money markets of the Middle East and bring in as many as they wish. There is a feeling that the stabilization of the currency is an important item in the future development program. It is hoped that the result of the monetary fund study may bring about a system of handling currency through the Central Bank in a way that will keep the rial at some stable level.

One factor behind the booming enrollments in the Industrial Institute and other trade schools is that a skilled technician or craftsman in Iran today may draw a greater salary income than a professor or government servant. Though there is still great status to these professions, an old college dean said, "Our people are changing inside, but this fact of better income has a lot to do with the change inside."

This change has taken place in very recent years and is a very significant development in Iran, since the traditional medicine,

engineering, law and plain academic training, as a means of gaining stature, is giving way just a little bit to the type of education which provides money rather than stature.

